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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,300	11/18/2003	Thomas D. Radcliff	965_021	6938

20874 7590 03/22/2005

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EXAMINER

NGUYEN, HOANG M

ART UNIT PAPER NUMBER

3748

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/716,300

Applicant(s)

RADCLIFF ET AL.

Examiner

Hoang M Nguyen

Art Unit

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9-01-04</u> . | 6) <input type="checkbox"/> Other: ____.  |

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5-7, 9-12, are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 4901531 (Kubo et al) in view of U.S. 5761921 (Hori et al). Kubo et al discloses a waste heat recovery system using the heat from an internal combustion engine 50 for driving a Rankine cycle including an expander 235, condenser 210, pump 212, through a heat exchanger, note column 8, lines 64-68 to column 9, lines 1-30, Kubo et al clearly explains that the heat exchanger in his system can be used to transfer heat to at least two sources, 1) oil cooler from pump 221 to cylinder heat 231 and intake 230 of the heat exchanger, and 2) the working fluid of the Rankine cycle of course. Kubo et al does not disclose the organic working fluid. Hori et al is relied upon to disclose it's well known to use a combined cycles power plant having a Rankine cycle using refrigerant or organic fluid as claimed. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use organic fluid as the working fluid or refrigerant in Kubo et al as taught by Hori et al for the purpose of achieving appropriate work output. Regarding claims 5-7, it would have been obvious to select different types of heat exchanger in Kubo et al for the purpose of improving the heat exchanging rates.

Claims 4, 8, 13-14, are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 4901531 (Kubo et al) in view of U.S. 5761921 (Hori et al) and US 5056315 (Jenkins). Kubo et al as modified by Hori et al discloses all the claimed subject matter as set forth above in the rejection of claim 1, but Kubo et al does not disclose the heat exchanger includes lubricant. Jenkins is relied upon to disclose it's well known to use a heat exchanger 70 for 3 different heat exchanging fluid including lubricant, the heat exchanging sections 58, 60, 64, can be mounted either parallel or series in said heat exchanger 70 (note column 7, lines 47-59). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to include lubricant heat exchanging means in Kubo et al as taught by Jenkins for the purpose of improving the conditions of the lubricant.

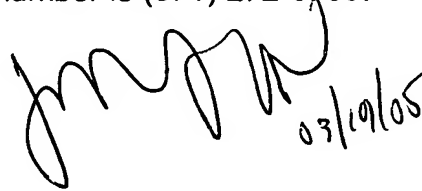
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bronicki, Jones et al, and Radcliff et al disclose combined power systems using multi-sources heat exchangers.

Art Unit: 3748

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Examiner Nguyen whose telephone number is (571) 272-4861. The examiner can normally be reached on Tuesday--Friday from 12:30 AM to 10:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion, can be reached on (571)-272-4859. The fax phone number for the Examiner is (703) 872-9302 for regular communication, and (703) 872-9303 for after final communication.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-3700.

A handwritten signature in black ink, appearing to be 'H. Nguyen', with the date '03/19/05' written to its right.

HOANG NGUYEN  
PRIMARY EXAMINER  
ART UNIT 3748

Hoang Minh Nguyen  
3/19/05